

31. (New) The process as defined in Claim 28 wherein said film forming polyolefin precursor is selected from the group consisting of an impact copolymer polypropylene, a random copolymer polypropylene, and a combination thereof.

32. (New) The method as defined in Claim 29 further including the step of heat laminating the microporous breathable film having polypropylene as a major component of the polyolefin precursor to a non-woven having polypropylene as a majority component a precursor polyolefin used to form the non-woven.

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contd

33. (New) The method as defined in Claim 32 further including the step of forming said combinations of microporous breathable film and non-woven polymer into an article selected from the group consisting of diapers, adult incontinence devices, feminine hygiene articles, surgical garments, surgical drapes, sportswear, industrial apparel, house wrap, filtration media, roofing components, and controlled atmosphere packaging.

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#### REMARKS

Applicant requests entry of the amendment to further define the claimed invention. No new matter has been added. A clean copy of all pending claims is attached as Exhibit A. A marked up copy indicating changes to the claims is attached as Exhibit B.

#### Rejection of Claims Under 35 U.S.C. § 103

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference(s) when combined must teach or suggest all of the claim limitations. The teaching or suggestion to make the claimed combination must be found in the prior art, and not based on applicant's disclosure. *In re Vaack*, 947 F.2d 488 (Fed. Cir. 1991).

To establish *prima facie* obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981

(C.C.P.A. 1974). In other words, "[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382 (C.C.P.A. 1970).

The claims of the present invention, as amended, recite a limitation which requires that the polyolefin precursor/filler blend be combined with an additive in a **solid form**. The Sugimoto reference cited by the Examiner teaches the combination of a resin and filler with a **liquid or waxy** hydrocarbon additive. *See* Sugimoto at col. 1, lines 54-55. The **liquid or waxy** hydrocarbon additive acts as a lubricant and reduces kneading torque when mixing the resin and the filler. *See*, Sugimoto at col. 4, lines 36-39. Additionally, the use of specified **liquid or waxy** hydrocarbon additives "serves to improve dispersibility of the filler." *See*, Sugimoto at col. 3, lines 36-37. On the other hand, Schwartz (including Table 2 referred to by the Examiner) relates to modifications of polypropylene oxide (PPO), not polypropylene, as claimed, in order to enhance dispersibility of fillers in such resins. *See*, Schwartz, Abstract and Table 2. One with ordinary skill in the art would not look to Schwartz to modify Sugimoto, as Sugimoto teaches a liquid or waxy hydrocarbon additive that already improves dispersibility of the filler and the teaching of Schwartz as to an alternate method of enhancing dispersibility of filler in PPO, which has a significantly lower molecular weight than polypropylene, would not be helpful.

Use of an additive in solid form is an important distinction from the teaching of the Sugimoto reference. Liquid and waxy hydrocarbons generally possess lower molecular weights (typically ~100g/mol for liquid hydrocarbons and ~1000g/mol for waxy hydrocarbons) than hydrocarbons in their solid state (typically  $10^4$  -  $10^7$  g/mol). In other words, the use of a high molecular weight solid additive distinguishes the present invention from the teachings in the Sugimoto reference. In addition, the combination of the Sugimoto reference with the Schwarz and Kobylivker references does not teach the combination of an additive (with resin and filler) in its solid form. In sum, a *prima facie* case of obviousness has not been established.

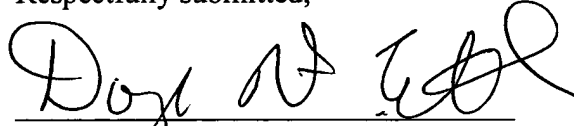
## **CONCLUSIONS**

In conjunction with the claim amendments and arguments above, Applicants believe that the pending claims are in condition for allowance. If any questions or issues remain, the

resolution of which the Examiner feels will be advanced by a conference with the Applicants' attorney, the Examiner is invited to contact the attorney at the number noted below. Applicants respectfully request that Examiner grant Applicants' attorney an interview prior to the issuance of an office action.

Checks for the requisite fees for the RCE and the Petition for Extension of Time accompany this response. The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment, to Deposit Account No. 20-0782/EXXO/004/DHE.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Doug H. Elliott", written over a horizontal line.

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**EXHIBIT A**  
**CLEAN COPY OF PENDING CLAIMS**

We Claim:

9. (Amended) A method of making a microporous breathable film comprising the steps of:

selecting a film forming a polyolefin precursor, said polyolefin precursor having polypropylene as a majority component;

blending said film forming polyolefin precursor with a filler which is a rigid material having a low affinity for the polyolefin precursor and a lower elasticity than the polyolefin precursor, and having a non-smooth hydrophobic surface such that the filler is about 30% to about 70% of the combined weight of the filler and the polyolefin precursor;

combining said polyolefin precursor/filler blend with an additive in its solid state selected from a group including a plastomer, an elastomer, a styrenic block copolymer or a combination thereof; and

stretching the combination of said blended polyolefin/filler blend with an additive to form a microporous breathable film having a dart impact strength in the range of from about 100 to about 300 grams,

wherein said film has a WVTR in the range of from about 100 to about 10,000 g/m<sup>2</sup>/24 hr, and

wherein said film has an MD or TD elongation in the range of from about 150% to about 550%.

10. The method as defined in Claim 9 wherein said step of stretching the combination uses interdigitating grooved rollers.

11. The method as defined in Claim 10 wherein said interdigitating grooved rollers are positioned in a direction selected from the group consisting of machine direction (MD), transverse direction (TD), and a combination thereof.

12. The process as defined in Claim 9 wherein said film forming polyolefin precursor is selected from the group consisting of an impact copolymer polypropylene, a random copolymer polypropylene, and a combination thereof.

14. The method as defined in Claim 10 further including the step of heat laminating the microporous breathable film having polypropylene as a major component of the polyolefin precursor to a non-woven having polypropylene as a majority component a precursor polyolefin used to form the non-woven.

15. The method as defined in Claim 14 further including the step of forming said combinations of microporous breathable film and non-woven polymer into an article selected from the group consisting of diapers, adult incontinence devices, feminine hygiene articles, surgical garments, surgical drapes, sportswear, industrial apparel, house wrap, filtration media, roofing components, and controlled atmosphere packaging.

16. (New) A method of making a microporous breathable film comprising the steps of:  
selecting a film forming a polyolefin precursor, said polyolefin precursor having polypropylene as a majority component;

blending said film forming polyolefin precursor with a filler which is a rigid material having a low affinity for the polyolefin precursor and a lower elasticity than the polyolefin precursor, and having a non-smooth hydrophobic surface such that the filler is about 30% to about 70% of the combined weight of the filler and the polyolefin precursor;

combining said polyolefin precursor/filler blend with an additive in its solid state selected from a group including a plastomer, an elastomer, a styrenic block copolymer or a combination thereof; and

stretching the combination of said blended polyolefin/filler blend and said additive to form a microporous breathable film having a dart impact strength greater than about 210 grams; and

wherein said film has a WVTR in the range of from about 100 to about 10,000 g/m<sup>2</sup>/24 hr, and

wherein said film has an MD or TD elongation in the range of from about 150% to about 550%.

17. (New) The method as defined in Claim 16 wherein said step of stretching the combination uses interdigitating grooved rollers.

18. (New) The method as defined in Claim 17 wherein said interdigitating grooved rollers are positioned in a direction selected from the group consisting of machine direction (MD), transverse direction (TD), and a combination thereof.

19. (New) The process as defined in Claim 16 wherein said film forming polyolefin precursor is selected from the group consisting of an impact copolymer polypropylene, a random copolymer polypropylene, and a combination thereof.

20. (New) The method as defined in Claim 17 further including the step of heat laminating the microporous breathable film having polypropylene as a major component of the polyolefin precursor to a non-woven having polypropylene as a majority component a precursor polyolefin used to form the non-woven.

21. (New) The method as defined in Claim 20 further including the step of forming said combinations of microporous breathable film and non-woven polymer into an article selected from the group consisting of diapers, adult incontinence devices, feminine hygiene articles, surgical garments, surgical drapes, sportswear, industrial apparel, house wrap, filtration media, roofing components, and controlled atmosphere packaging.

22. (New) A method of making a microporous breathable film comprising the steps of:  
selecting a film forming a polyolefin precursor, said polyolefin precursor having polypropylene as a majority component;

blending said film forming polyolefin precursor with a filler which is a rigid material having a low affinity for the polyolefin precursor and a lower elasticity than the

polyolefin precursor, and having a non-smooth hydrophobic surface such that the filler is about 30% to about 70% of the combined weight of the filler and the polyolefin precursor;

combining said polyolefin precursor/filler blend with an additive in its solid state selected from a group including a plastomer, an elastomer, a styrenic block copolymer or a combination thereof; and

wherein said film has a WVTR greater than 1000 g/m<sup>2</sup>/24 hr; and

wherein said film has an MD or TD elongation in the range of from about 150% to about 550%.

23. (New) The method as defined in Claim 22 wherein said step of stretching the combination uses interdigitating grooved rollers.

24. (New) The method as defined in Claim 23 wherein said interdigitating grooved rollers are positioned in a direction selected from the group consisting of machine direction (MD), transverse direction (TD), and a combination thereof.

25. (New) The process as defined in Claim 22 wherein said film forming polyolefin precursor is selected from the group consisting of an impact copolymer polypropylene, a random copolymer polypropylene, and a combination thereof.

26. (New) The method as defined in Claim 23 further including the step of heat laminating the microporous breathable film having polypropylene as a major component of the polyolefin precursor to a non-woven having polypropylene as a majority component a precursor polyolefin used to form the non-woven.

27. (New) The method as defined in Claim 26 further including the step of forming said combinations of microporous breathable film and non-woven polymer into an article selected from the group consisting of diapers, adult incontinence devices, feminine hygiene articles, surgical garments, surgical drapes, sportswear, industrial apparel, house wrap, filtration media, roofing components, and controlled atmosphere packaging.

28. (New) A method of making a microporous breathable film comprising the steps of:  
selecting a film forming a polyolefin precursor, said polyolefin precursor having polypropylene as a majority component;

blending said film forming polyolefin precursor with a filler which is a rigid material having a low affinity for the polyolefin precursor and a lower elasticity than the polyolefin precursor, and having a non-smooth hydrophobic surface such that the filler is about 30% to about 70% of the combined weight of the filler and the polyolefin precursor;

combining said polyolefin precursor/filler blend with an additive in its solid state selected from a group including a plastomer, an elastomer, a styrenic block copolymer or a combination thereof; and

wherein said film has an MD or TD elongation in the range from about 150% to about 550%; and

stretching the combination of said blended polyolefin/filler blend with an additive to form a microporous breathable film having a dart impact strength in the range of from about 100 to about 300 grams,

29. (New) The method as defined in Claim 28 wherein said step of stretching the combination uses interdigitating grooved rollers.

30. (New) The method as defined in Claim 29 wherein said interdigitating grooved rollers are positioned in a direction selected from the group consisting of machine direction (MD), transverse direction (TD), and a combination thereof.

31. (New) The process as defined in Claim 28 wherein said film forming polyolefin precursor is selected from the group consisting of an impact copolymer polypropylene, a random copolymer polypropylene, and a combination thereof.

32. (New) The method as defined in Claim 29 further including the step of heat laminating the microporous breathable film having polypropylene as a major component of the polyolefin precursor to a non-woven having polypropylene as a majority component a precursor polyolefin used to form the non-woven.



33. (New) The method as defined in Claim 32 further including the step of forming said combinations of microporous breathable film and non-woven polymer into an article selected from the group consisting of diapers, adult incontinence devices, feminine hygiene articles, surgical garments, surgical drapes, sportswear, industrial apparel, house wrap, filtration media, roofing components, and controlled atmosphere packaging.

**EXHIBIT B**  
**AMENDED CLAIMS MARKED UP TO SHOW CHANGES**

9. (Amended) A method of making a microporous breathable film comprising the steps of:

selecting a film forming a polyolefin precursor, said polyolefin precursor having polypropylene as a majority component;

blending said film forming polyolefin precursor with a filler which is a rigid material having a low affinity for the polyolefin precursor and a lower elasticity than the polyolefin precursor, and having a non-smooth hydrophobic surface such that the filler is about 30% to about 70% of the combined weight of the filler and the polyolefin precursor;

combining said polyolefin precursor/filler blend with an additive in its solid state selected from a group including a plastomer, an elastomer, a styrenic block copolymer or a combination thereof; and

stretching the combination of said blended polyolefin/filler blend with an additive to form a microporous breathable film having a dart impact strength in the range of from about 100 to about 300 grams,

wherein said film has a WVTR in the range of from about 100 to about 10,000 g<sub>[f]</sub>/m<sup>2</sup>/24 hr, and

wherein said film has an MD or TD elongation in the range of from about 150% to about 550%.

13. Canceled.

16. (New) A method of making a microporous breathable film comprising the steps of:

selecting a film forming a polyolefin precursor, said polyolefin precursor having polypropylene as a majority component;

blending said film forming polyolefin precursor with a filler which is a rigid material having a low affinity for the polyolefin precursor and a lower elasticity than the polyolefin precursor, and having a non-smooth hydrophobic surface such that the filler is about 30% to about 70% of the combined weight of the filler and the polyolefin precursor;

combining said polyolefin precursor/filler blend with an additive in its solid state selected from a group including a plastomer, an elastomer, a styrenic block copolymer or a combination thereof; and

stretching the combination of said blended polyolefin/filler blend and said additive to form a microporous breathable film having a dart impact strength greater than about 210 grams; and

wherein said film has a WVTR in the range of from about 100 to about 10,000 g/m<sup>2</sup>/24 hr.

17. (New) The method as defined in Claim 16 wherein said step of stretching the combination uses interdigitating grooved rollers.

18. (New) The method as defined in Claim 17 wherein said interdigitating grooved rollers are positioned in a direction selected from the group consisting of machine direction (MD), transverse direction (TD), and a combination thereof.

19. (New) The process as defined in Claim 16 wherein said film forming polyolefin precursor is selected from the group consisting of an impact copolymer polypropylene, a random copolymer polypropylene, and a combination thereof.

20. (New) The method as defined in Claim 17 further including the step of heat laminating the microporous breathable film having polypropylene as a major component of the polyolefin precursor to a non-woven having polypropylene as a majority component a precursor polyolefin used to form the non-woven.

21. (New) The method as defined in Claim 20 further including the step of forming said combinations of microporous breathable film and non-woven polymer into an article selected from the group consisting of diapers, adult incontinence devices, feminine hygiene articles, surgical garments, surgical drapes, sportswear, industrial apparel, house wrap, filtration media, roofing components, and controlled atmosphere packaging.

22. (New) A method of making a microporous breathable film comprising the steps of:  
selecting a film forming a polyolefin precursor, said polyolefin precursor having polypropylene as a majority component;

blending said film forming polyolefin precursor with a filler which is a rigid material having a low affinity for the polyolefin precursor and a lower elasticity than the polyolefin precursor, and having a non-smooth hydrophobic surface such that the filler is about 30% to about 70% of the combined weight of the filler and the polyolefin precursor;

combining said polyolefin precursor/filler blend with an additive in its solid state selected from a group including a plastomer, an elastomer, a styrenic block copolymer or a combination thereof; and

wherein said film has a WVTR greater than 1000 g/m<sup>2</sup>/24 hr; and

wherein said film has an MD or TD elongation in the range of from about 150% to about 550%.

23. (New) The method as defined in Claim 22 wherein said step of stretching the combination uses interdigitating grooved rollers.

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25. (New) The process as defined in Claim 22 wherein said film forming polyolefin precursor is selected from the group consisting of an impact copolymer polypropylene, a random copolymer polypropylene, and a combination thereof.

26. (New) The method as defined in Claim 23 further including the step of heat laminating the microporous breathable film having polypropylene as a major component of the polyolefin precursor to a non-woven having polypropylene as a majority component a precursor polyolefin used to form the non-woven.

27. (New) The method as defined in Claim 26 further including the step of forming said combinations of microporous breathable film and non-woven polymer into an article selected from the group consisting of diapers, adult incontinence devices, feminine hygiene articles, surgical garments, surgical drapes, sportswear, industrial apparel, house wrap, filtration media, roofing components, and controlled atmosphere packaging.

28. (New) A method of making a microporous breathable film comprising the steps of: selecting a film forming a polyolefin precursor, said polyolefin precursor having polypropylene as a majority component;

blending said film forming polyolefin precursor with a filler which is a rigid material having a low affinity for the polyolefin precursor and a lower elasticity than the polyolefin precursor, and having a non-smooth hydrophobic surface such that the filler is about 30% to about 70% of the combined weight of the filler and the polyolefin precursor;

combining said polyolefin precursor/filler blend with an additive in its solid state selected from a group including a plastomer, an elastomer, a styrenic block copolymer or a combination thereof; and

wherein said film has an MD or TD elongation in the range from about 150% to about 550%; and

stretching the combination of said blended polyolefin/filler blend with an additive to form a microporous breathable film having a dart impact strength in the range of from about 100 to about 300 grams.

29. (New) The method as defined in Claim 28 wherein said step of stretching the combination uses interdigitating grooved rollers.

30. (New) The method as defined in Claim 29 wherein said interdigitating grooved rollers are positioned in a direction selected from the group consisting of machine direction (MD), transverse direction (TD), and a combination thereof.

31. (New) The process as defined in Claim 28 wherein said film forming polyolefin precursor is selected from the group consisting of an impact copolymer polypropylene, a random copolymer polypropylene, and a combination thereof.

32. (New) The method as defined in Claim 29 further including the step of heat laminating the microporous breathable film having polypropylene as a major component of the polyolefin precursor to a non-woven having polypropylene as a majority component a precursor polyolefin used to form the non-woven.

33. (New) The method as defined in Claim 32 further including the step of forming said combinations of microporous breathable film and non-woven polymer into an article selected from the group consisting of diapers, adult incontinence devices, feminine hygiene articles, surgical garments, surgical drapes, sportswear, industrial apparel, house wrap, filtration media, roofing components, and controlled atmosphere packaging.